AMENDMENTS TO THE CLAIMS

Claims 1- 30. (canceled)

Claim 31. (currently amended) A Human EOPA gene, ~~characterized by the fact that it is formed by 9 exons and 10 introns,~~ comprising about 40 ~~kb~~kilobasepairs in 9 exons and 10 introns,, located at the chromosome site 17pl2.9, ~~relatively close to the p53 locus~~ ~~(~~about 0.7 cM distant~~)~~from the p53 locus, at the same chromosome as the Lisl gene (17p13.3); ~~some~~ the promoter portion of the gene comprising recognition sites for AP1, cMyb, SP1, nMyc and cMyc transcriptional regulatory factors ~~were observed in the promoter region of the gene~~.

Claims 32-61. (canceled)

Claim 62 (currently amended) ~~Recombinant~~ A recombinant protein, ~~characterized by the fact that it is an~~ that has~~ndopeptidase~~ thiol-activated endopeptidase activity and is insensible to EDTA, ~~showing~~ having a molecular mass of approximately 40 kDa, able to selectively hydrolyze peptides of 7 to 13 amino acid residues having an isoelectric point between 5.22 and 5.50, itself having an isoelectric point between 5.22 and 5.50, specifically hydrolyses the Phe^{5}-Ser^{6} bond of the bradykinin, and specifically hydrolyses the Arg^{8}-Arg^{9} bond of the neurotensin.~~being found associated with other cytosolic proteins generating complexes of molecular masses higher than 70 kDa.~~

Claims 63-113. (canceled)

114. (new) A method for diagnosis of congenital diseases of brain development or of disease resulting from tissue degeneration in the brain, comprising assessing

the level of expression of EOPA mRNA or protein or the tissue distribution of EOPA mRNA or protein in brain tissue or cultured cells; an abnormal level of expression or tissue distribution being indicative of a disease state.

115. (new) A method for identifying a compound as useful for treatment of congenital diseases of brain development or of disease resulting from tissue degeneration in the brain, comprising assaying the compound for activity as an inhibitor of neuropeptide inactivation by EOPA or as an inhibitor of neuropeptide biotransformation by EOPA, said compound being identified as useful for said treatment that inhibits neuropeptide inactivation or neuropeptided biotransformation by EOPA.

116. (new) A full-length cDNA molecule comprising an EcoRI - KpnI restriction fragment having the sequence shown in Figure 1 and encoding a protein, that has thiol-activated endopeptidase activity and is insensible to EDTA, having a molecular mass of approximately 40 kDa, able to selectively hydrolyze peptides of 7 to 13 amino acid residues having an isoelectric point between 5.22 and 5.50, itself having an isoelectric point between 5.22 and 5.50, specifically hydrolyses the Phe^5-Ser^6 bond of the bradykinin, and specifically hydrolyses the Arg^8-Arg^9 bond of the neurotensin.